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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,032	07/11/2003	Tom Dominique Linster	DN2002127	4021

27280 7590 11/02/2006

THE GOODYEAR TIRE & RUBBER COMPANY
INTELLECTUAL PROPERTY DEPARTMENT 823
1144 EAST MARKET STREET
AKRON, OH 44316-0001

EXAMINER	
SANDERS, KRIELLION ANTIONETTE	
ART UNIT	**PAPER NUMBER**
1714	

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/618,032	LINSTER ET AL.	
	Examiner	Art Unit	
	Kriellion A. Sanders	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 13-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10, 13-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/17/2006 has been entered.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-10 and 13-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. Applicant's invention as claimed fails to particularly point out and distinctly claim that which applicant considers the claimed process steps to be. Specifically, applicant sets forth a specific mixing procedure that does not distinctly define the invention. This procedure is set forth at the last five lines of claim 1 wherein applicant states that while continuing to mix said rubber composition in said mixer, the rubber composition is mixed under an extended mixing condition at a temperature within 10 degrees C. of the pre-determined temperature for an extended period of 0.5 to 15 minutes. This process procedure does not define a distinct process

procedure that could be considered separate from the initial procedure of the claim. The first mixing step has no end point. Therefore, the second mixing step cannot be considered a distinct and separate mixing step. In fact, applicant uses the term, "while continuing to mix", to define the second mixing procedure.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1- 10 and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmer et al. US Patent No. 6090880.

4. The rejection is repeated for reasons of record.

5. Zimmer et al discloses a tire comprised of:

(A) 100 parts by weight of at least one diene-based elastomer composed of

(i) about 20 to about 50 phr of at least one modified copolymer elastomer of styrene or alpha-methylstyrene and conjugated diene selected from at least one of butadiene and isoprene, said modified elastomer being coupled or capped with tin or silicon and

(ii) about 20 to about 50 phr of at least one elastomer selected from homopolymers of conjugated dienes selected from butadiene and isoprene, copolymers of said conjugated

dienes, copolymers of said conjugated diene(s) with an aromatic hydrocarbon selected from styrene and alpha-methylstyrene,

(B) about 30 to about 110 phr of reinforcing filler composed of

(i) about 30 to about 90 phr of surface-modified reinforcing carbon black, said carbon black containing at least one moiety selected from silanol, siloxane, titanium oxide, titanium hydroxide, zirconium oxide, zirconium hydroxide and aluminum hydroxide groups on the surface thereof, and

(ii) additional filler has about 10 to about 20 phr of at least one of precipitated silica containing silanol groups on the surface thereof and unmodified reinforcing carbon black,

(C) at least one silica coupler having a moiety reactive with

(i) at least one of said moieties contained on the surface of said surface-modified carbon black and

(ii) with silanol groups on said silica, if silica is used, and another moiety interactive with at least one of said elastomer(s): and wherein about 60 to about 85 percent of the tin bonds in the modified copolymer elastomer are bonded to diene units of the styrene/diene copolymer. Various silica couplers can be used. One preferred coupler is a bis-(trialkoxysilylalkyl) polysulfide containing from about 2 to about 8 sulfur atoms in the polysulfide bridge, alternatively an average of about 4 sulfur atoms in the polysulfide bridge. For example, the silica coupler can be bis-(3-triethoxysilylpropyl) tetrasulfide having an average of about 4 sulfur atoms in its polysulfide bridge or, in an alternative, a polysulfide having about 2 sulfur atoms in its polysulfide bridge.

Conventionally a weight ratio of silica coupler to the said surface-modified carbon black, and precipitated silica, if used, is in a range of about 0.01/1 to about 0.25/1.

The rubber compositions are prepared by mixing the aforesaid ingredients in a series of sequential mixing steps in which at least one of the mixing steps is conducted at an elevated temperature in a range of about 160 degree C to about 175 degree C. or to 180 degree C. prior to adding sulfur and vulcanization accelerators, in order to break the tin bonds in the coupled copolymer and to reduce the reaction time between the tin, silanol groups on the carbon black, alkoxy silane moiety on the silica coupler and the elastomers (themselves). The ingredients are typically mixed in at least two stages, namely, at least one non-productive stage followed by a productive mix stage. The final curatives are typically mixed in the final stage which is conventionally called the "productive" mix stage in which the mixing typically occurs at a temperature, or ultimate temperature, lower than the mix temperature(s) than the preceding non-productive mix stage(s). The rubber, silica, silica coupler, silica silylating agent, and carbon black if used, are mixed in one or more non-productive mix stages. The terms "non-productive" and "productive" mix stages are well known to those having skill in the rubber mixing art. In at least one of the non-productive (NP) mixing stages, the materials are thermomechanically mixed and the mixing temperature is allowed to reach a temperature between 140.degree C. and 190 degree. C.

The Carbon black used in the invention is modified by being surface treated with a silane by the following method:

An oven is purged with a nitrogen to create an inert gaseous atmosphere within the oven.

After gently crushing the carbon black, 0.5 grams of tetraethoxysilane per gram of carbon

black are added to the carbon black. The homogenized mixture is then placed in a tempered alumina crucible. The crucible is placed in the oven. The oven is purged with nitrogen from about 30 minutes and then heated up to about 800.degree C. for about two hours. The crucible is then removed from the oven and the contents cooled to about room temperature which is typically in a range of about 22 degree C. to about 25 degree. C. See col. 1, line 49 through col. 10, line 18.

No patentable difference is readily ascertained between the present and patented inventions. Selection of species from within the genus of components disclosed by patentee would have been obvious to one of ordinary skill in the art at the time of applicant's invention.

Response to Arguments

1. Applicant's arguments filed 8/10/06 have been fully considered but they are not persuasive.

2. Applicant argues that there is no teaching within Zimmer to provide the applicant's required extended mixing within 10 degrees C of a predetermined elevated temperature for a period of time to promote further reaction of the coupling agent with the silica domains of the silica-containing carbon black.

3. This argument is not persuasive because as pointed out in the rejection under 35 USC 112 above applicant states that while continuing to mix said rubber composition in said mixer, the rubber composition is mixed under an extended mixing condition at a temperature within 10 degrees C. of the pre-determined temperature for an extended period of 0.5 to 15 minutes. This process procedure does not define a distinct process procedure that could be considered separate

from the initial procedure of the claim. The first mixing step has no end point. Therefore, the second mixing step cannot be considered a distinct and separate mixing step. In fact, applicant uses the term, "while continuing to mix", to define the second mixing procedure. The temperature and time limitations of within 10 degrees C. of the pre-determined temperature for an extended period of 0.5 to 15 minutes set forth in the claims do not provide a clear line of demarcation between initial and subsequent mixing steps. If the first and second temperatures are both 140 degrees C. applicant's temperature limitation is met because 140 degrees C is within 10 degrees of 140 degrees C. Applicant has not shown a clear distinction over the invention of Zimmer et al.

4. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., applicant's required extended mixing within 10 degrees C. of a predetermined elevated temperature for a period of time to promote further reaction of the coupling agent with the silica domains of the silica-containing carbon black.) are not recited in the rejected claim(s). The claims do not include a limitation to the promotion of further reaction of the coupling agent with the silica domains of the silica-containing carbon black.

5. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

6. Zimmer et al states that Sequential mixing processes for preparing sulfur curable rubber compositions in which elastomers and associated ingredients exclusive of curatives are first mixed in one or more sequential steps, usually called a "non-productive mixing step(s)" followed

by a final mixing step for adding curatives, usually called a "productive mixing step", are also well known to those skilled in the art. Therefore, the utilization of multiple mixin steps would have been obvious to one of ordinary skill in the art at the time of applicant's invention. See col. 6, line 63 through col. 7, line 2.

7. Zimmer et al also states that it is readily understood by those having skill in the art that the rubber composition would be compounded by methods generally known in the rubber compounding art, such as mixing the various sulfur-vulcanizable constituent rubbers with various commonly used additive materials such as, for example, curing aids, such as sulfur, activators, retarders and accelerators, processing additives, such as oils, resins including tackifying resins, silicas, and plasticizers, fillers, pigments, fatty acid, zinc oxide, waxes, antioxidants and antiozonants, peptizing agents and reinforcing materials such as, for example, carbon black. As known to those skilled in the art, depending on the intended use of the sulfur vulcanizable and sulfur vulcanized material (rubbers), the additives mentioned above are selected and commonly used in conventional amounts. See col. 8, lines 18-32.

8. Applicant has not shown anything of an unexpected nature by utilizing sequential mixing of the conventional components disclosed by Zimmer et al.

Information Disclosure Statement

Applicant is advised that any prior art cited on a form 1449 must include a month and year of publication to be so complete as to allow for the initialing and signing of the 1449.

Conclusion

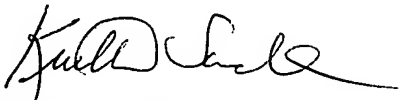
All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been timely entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kriellion A. Sanders whose telephone number is 571-272-1122. The examiner can normally be reached on Monday through Thursday 8:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kriellion A. Sanders
Primary Examiner
Art Unit 1714

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